

What is Claimed is:

[c1] A method of applying an ink-phobic coating to an ejector of an ink jet printhead, comprising:
applying the ink-phobic material to an outer surface of the ejector, wherein the ejector comprises one or more openings through which ink is expelled or ejected, and
drawing the ink-phobic material through the openings of the ejector to coat an interior of the ejector with the ink-phobic material.

[c2] The method of claim 1, further comprising removing an excess of ink-phobic material from the outer surface of the ejector prior to drawing.

[c3] The method of claim 2, wherein the removing excess ink-phobic material from the outer surface of the ejector comprises wiping the outer surface with a doctor blade.

[c4] The method of claim 1, further comprising heating the coated ejector to dry or cure the ink-phobic material.

[c5] The method of claim 1, wherein a vacuum draws the ink-phobic material through the openings of the ejector.

[c6] The method of claim 5, wherein the vacuum draws the ink-phobic material through the ejector with a force of about 10 to about 20 inches of mercury.

[c7] The method of claim 1, wherein the ink-phobic material is a solution comprising about 1% by weight to about 12% by weight amorphous fluoropolymer.

[c8] The method of claim 7, wherein the amorphous fluoropolymer is perfluoro(2,2-dimethyl-1,3-dioxole) and tetrafluoroethylene.

[c9] The method of claim 1, wherein prior to coating the ejector with the ink-phobic material, a primer is first applied to the ejector.

[c10] The method of claim 9, wherein the primer is 1H,1H,2H,2H-perfluorodecyltriethoxysilane.

[c11] The method of claim 1, wherein the ejector comprises an aperture plate with apertures, wherein the apertures are coated with the ink-phobic coating.

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[c12] The method of claim 5, wherein the vacuum is applied to a back side of the aperture plate, and wherein additional excess ink-phobic coating is drawn through to the back side of the aperture plate.

[c13] The method of claim 12, wherein the aperture plate has apertures on a front side of the aperture plate and the back side has openings larger than the apertures on the front side of the aperture plate.

[c14] The method of claim 1, wherein the printhead comprises a liquid level control plate.

[c15] The method of claim 1, wherein a contact angle of water on the ink-phobic coating is greater than about 70 ° .

[c16] The method of claim 5, wherein a contact angle of water on the ink-phobic coating is at least about 40 ° after the heating and curing.

[c17] The method of claim 1, wherein the ink-phobic material is applied to an outer surface of the ejector by an air atomization spray device.

[c18] The method of claim 1, wherein the ink-phobic material is applied to an outer surface of the ejector by an air atomization spray device while a vacuum draws the ink-phobic material through the openings of the ejector.

[c19] A print head, comprising:
an ejector comprising one or more openings through which ink is expelled or ejected, wherein the ejector and inside surfaces of the openings are coated with perfluoro(2,2-dimethyl-1,3-dioxole) and tetrafluoroethylene.

[c20] The print head according to claim 19, wherein the print head comprises 1H,1H,2H,2H-perfluorodecyltriethoxysilane.

[c21] A method of applying an ink-phobic coating to an ejector of an ink jet printhead, comprising:
applying the ink-phobic material to an outer surface of the ejector, wherein the ejector comprises one or more openings through which ink is expelled or ejected, and

forcing the ink-phobic material through the openings of the ejector to coat an interior of the ejector with the ink-phobic material.

[c22] The method of claim 21, wherein pressurized air forces the ink-phobic material through the openings of the ejector to coat the interior of the ejector with the ink-phobic material.